



Micro Commercial Components

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# MMDT3906

## Features

- Ideal for Low Power Amplification and Switching
- Ultra-small Surface Mount Package
- Epitaxial Planar Die Construction
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Marking: K3N

### Maximum Ratings @ 25°C Unless Otherwise Specified

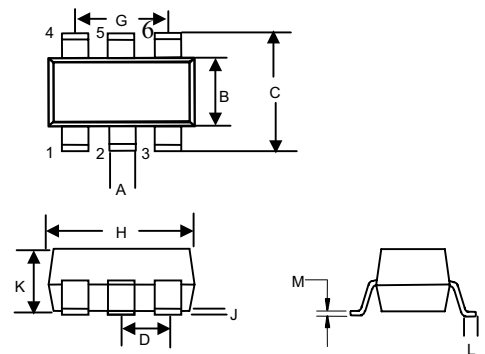
Symbol	Rating	Rating(PNP)	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	-40	V
V <sub>CBO</sub>	Collector-Base Voltage	-40	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current-Continuous	-0.2	A
P <sub>C</sub>	Collector Dissipation	0.2	W
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

### Electrical Characteristics @ 25°C Unless Otherwise Specified

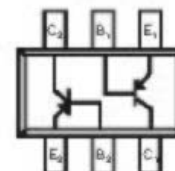
Symbol	Parameter	Min	Max	Units	
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage (I <sub>C</sub> =-1mA, I <sub>B</sub> =0)	-40	---	Vdc	
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage (I <sub>C</sub> =-10µA, I <sub>E</sub> =0)	-40	---	Vdc	
V <sub>(BR)EBO</sub>	Collector-Emitter Breakdown Voltage (I <sub>E</sub> =-10µA, I <sub>C</sub> =0)	-5	---	Vdc	
I <sub>CBO</sub>	Collector Cutoff Current (V <sub>CB</sub> =-30Vdc, I <sub>E</sub> =0)	---	-50	nAdc	
I <sub>EBO</sub>	Emitter Cutoff Current (V <sub>EB</sub> =-5Vdc, I <sub>C</sub> =0)	---	-50	nAdc	
h <sub>FE</sub>	DC Current Gain (I <sub>C</sub> =-0.1mA, V <sub>CE</sub> =-1Vdc)	40	---	---	
	(I <sub>C</sub> =-1mA, V <sub>CE</sub> =-1Vdc)	70	---		
	(I <sub>C</sub> =-10mA, V <sub>CE</sub> =-1Vdc)	100	300		
	(I <sub>C</sub> =-50mA, V <sub>CE</sub> =-1Vdc)	60	---		
	(I <sub>C</sub> =-100mA, V <sub>CE</sub> =-1Vdc)	30	---		
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA) (I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA)	---	-0.25 -0.4	Vdc	
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage (I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA) (I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA)	-0.65	-0.85 -0.95	Vdc	
f <sub>T</sub>	Current Gain-Bandwidth Product (V <sub>CE</sub> =-20Vdc, I <sub>C</sub> =-10mA, f=100MHz)	250	---	MHz	
C <sub>ob</sub>	Output Capacitance (V <sub>CB</sub> =-5Vdc, f=1.0MHz, I <sub>E</sub> =0)	---	4.5	pF	
NF	Noise Figure (V <sub>CE</sub> =-5V, I <sub>C</sub> =-0.1mA, f=1KHz, R <sub>S</sub> =1kΩ)	---	4	dB	
t <sub>d</sub>	Delay Time	V <sub>CC</sub> =-3V, I <sub>C</sub> =-10mA,	---	35	ns
t <sub>r</sub>	Rise Time	V <sub>BE</sub> =-0.5V, I <sub>B1</sub> =-I <sub>B2</sub> =-1mA	---	35	ns
t <sub>s</sub>	Storage Time	V <sub>CC</sub> =-3V, I <sub>C</sub> =-10mA,	---	225	ns
t <sub>f</sub>	Fall Time	I <sub>B1</sub> =-I <sub>B2</sub> =-1mA	---	75	ns

## PNP Small Signal Surface Mount Transistors

### SOT-363



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.006	.014	0.15	0.35	
B	.045	.053	1.15	1.35	
C	.085	.096	2.15	2.45	
D	.026		0.65Nominal		
G	.047	.055	1.20	1.40	
H	.071	.087	1.80	2.20	
J	---	.004	---	0.10	
K	.035	.043	0.90	1.10	
L	.010	.018	0.26	0.46	
M	.003	.006	0.08	0.15	





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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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